

Remarks

Claims 1-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Baroni et al. (US 6,662,308) in view of Type and Characteristics of SDH Network Protection Architectures ITU-T, G.841 (10/98). Reconsideration is requested.

The Examiner concedes that Baroni differs from claims 1, 3 and 4 in that Baroni does not disclose, in failure free operation, both the working transmission path and the shared protection path carrying link aggregated traffic simultaneously without duplication of that traffic on the two routes.

However, the Applicants further assert that Baroni does not disclose a network node comprising a link aggregation router.

Baroni only presents the use of routers to send data over a network to routers located in other parts of the network. When explaining unshared protection architectures, Baroni details the more simple process of switching traffic between paths. This can only be considered to be relevant to claim 1 if the switching routers of Baroni can be seen as link aggregation routers and if both primary and secondary paths carry link aggregated traffic.

Link aggregation is a well known term which is defined in the specification as follows:

“Link aggregation is a method of grouping physical link segments of the same media type and speed, and treating them as if they were part of a single, logical link segment.” (page 5, line 6)

This definition continues with the explanation that:

“If a link in a trunk fails, the flows mapped to that link are dynamically reassigned to the remaining links of the aggregated link.” (page 5, line 12)

The Examiner has acknowledged that the broadest reasonable interpretation of the claim cannot ignore such an explicit definition in the specification. The definition follows the established use of the phrase and so merely reinforces the interpretation that a skilled person would use anyway.

There is no mention by Baroni et al that the routers in the architecture of Figures 1-3 are anything more than traffic switchers. The shared protection path in Baroni does involve the reallocation of traffic in the event of a failure, but this reallocation does not meet the definition of link aggregation which is "reallocation to the remaining links of the aggregated link". In Baroni, the reallocation is not to the remaining links, but is to an alternative line, the secondary line.

The Examiner looks to "Type and Characteristics of SDH Network Protection Architectures ITU-T, G.841 (10/98)" (hereinafter referred to as D2) for the disclosure of simultaneous transmission of aggregated traffic on both the transmission path and shared protection path during failure-free operation. It is respectfully submitted that the disclosure of having protection channels carry extra traffic when not being used for protection of normal traffic does not teach the features of claims 1, 3 and 4 which are missing from Baroni.

D2 does not disclose link aggregated traffic being carried on both the working path and the shared protection path, during failure-free operation. Starting from Baroni, and considering savings in protection capacity that shared protection architectures can provide (see col.2, lines 46-56), the skilled person is taught that unused protection channels can be shared for failure affecting other transmission paths, thus improving network capacity. D2 only states that extra traffic can be carried on a protection channel, and does not discuss exactly what is carried on the shared protection path during failure-free operation.

In view of Baroni's disclosure, the teaching of D2 can only lead a reader to understanding that an un-used protection channel can provide additional capacity for additional traffic. This additional traffic cannot be taken as link

aggregated traffic as defined above. Such link aggregated traffic comprises flows which are mapped to a group of physical link segments of the same media type and speed, treated as if they were part of a single, logical link segment, and dynamically reassigned between the links in the event of failure.

Given the explanation above of link aggregation and Baroni's disclosure being limited to traffic switching between primary and secondary paths, it should be apparent that the subject-matter of claims 1, 3 and 4 goes beyond any combination of the teachings of Baroni and D2.

As explained in previous responses, and as seen in Baroni, optical protection schemes would normally be handled at the link level and thus operate independently of any link aggregation router. Hence, there is nothing in either Baroni or D2 which leads the person skilled in the art towards the unconventional step of incorporating a link aggregation router into an optical shared protection scheme as set out in the present claim 1. Nor is there any disclosure of transmitting link aggregated traffic of an unused protection channel.

The claimed invention makes more efficient use of available bandwidth. The advantages of link aggregation and of shared protection paths can be achieved simultaneously and more efficiently by using the same router for both schemes. There is no suggestion in Baroni or D2 of this concept, nor any suggestion of using a router to separate traffic between a shared protection path and a working path.

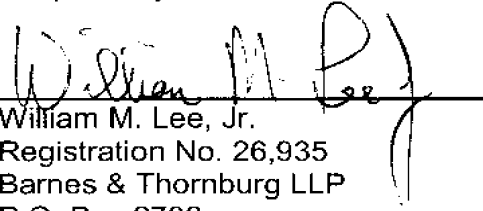
Having addressed the rejections raised against all independent claims, it is submitted that the remaining rejections raised against the dependent claims are now moot.

Although no discussion of any remaining rejections raised against the dependent claims is given, it should not be taken that the rejections raised are accepted.

It is submitted that this application is now in condition for allowance. Such action is respectfully solicited

April 28, 2008

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William M. Lee, Jr.", is written over a horizontal line. The signature is stylized with a large, looped "L" and a trailing flourish.

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